

Role of Antibody Suggested In Mental Illness

An organic theory of mental illness, in which antibodies act against constituents of the brain, has been offered by Dr. W. J. Fessel, San Francisco.

Natural antibodies are substances produced by the body to counteract invading foreign substances, a process termed autoimmunity.

Although the evidence is "admittedly slim," Dr. Fessel said his theory could explain some of the many biochemical abnormalities of the blood that have been discovered in the mentally ill.

"At the present stage of our knowledge there is some merit in a simple hypothesis, with which some

of the known facts fit, and which is open to experimental testing in the laboratory," he said in the February *Archives of General Psychiatry*, published by the American Medical Association.

"This hypothesis would apply neither to all cases of psychosis nor to all of the biochemical abnormalities which have been found in psychoses."

Reviewing developments in the past 10 years, Dr. Fessel said there is a large body of scientific evidence showing that blood protein abnormalities occur in the mentally ill. The multiplicity of these abnormalities probably reflect several primary causes of mental disease as well as a number of secondary effects, he said.

The abnormalities include an elevation of certain globulins, a class of proteins which are largely antibodies, he said, and some studies have shown that protein substances can cause a behavioral disturbance in man.

Dr. Fessel said he himself recently confirmed the presence of a significant elevation of the class S19 macroglobulins in persons with so-called functional acute mental disturbances in a comparison with a group of unselected blood donors. The presence of these macroglobulins, which often have antibody-like activity, may imply an autoimmune factor in the chain of events leading to the mental disturbance, he said.

As to why antibodies would attack a person's own cerebral material, Dr. Fessel said certain components of the nervous system, because of their relatively late development before birth, might not be recognized by the body's immunity mechanism as "self" but would be reacted to as "foreign."

Further support for the autoimmune theory is found in investigations that have revealed an abnormal immunity response to various vaccines among mental patients, he said.

"The idea that autoimmunization is a factor in the genesis of some functional psychoses might be thought naive in view of all that is known about the importance of other, e.g., psychosocial and genetic, factors in their causation," Dr. Fessel concluded. "Yet such is the complexity of interplay between cause and effect that these various mechanisms may be interdependent, the final clinical expression being the delicately balanced resultant of them all."

Dr. Fessel is affiliated with Langley Porter Neuropsychiatric Institute, California Department of Mental Hygiene, and the department of psychiatry, University of California School of Medicine.

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